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A PRACTICAL ESSAY

ON

CANCER:

BEING

THE SUBSTANCE OF OBSERVATIONS

TO WHICH

THE ANNUAL PRIZE FOR 1808

WAS ADJUDGED BY

THE ROYAL COLLEGE OF SURGEONS

OF LONDON.

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**MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON, AND
OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH.**

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PREFACE.

IN the following sheets, which still retain their original form of a Probationary Essay, it has been the Author's aim to collect and concentrate into one point of view all the valuable information that is to be found scattered throughout the works of preceding writers on Cancer. Of these he wishes it to be understood that he has freely availed himself in collecting materials for the present volume. To execute a task, however, of this kind in a proper manner, it is requisite that a man should possess at least such a share of personal experience as will qualify him to distinguish between what is truly valuable and important, and what is not so. Another part of his duty, too, that he is often called upon to perform, is to balance between opposite opinions, and to determine upon them, without paying too much regard to the authority of any name, by which they may happen to stand supported. This

is a liberty which every author feels himself privileged to make use of towards his predecessors ; and he can therefore have no right to complain, should the same freedom be exercised upon him in his turn.

Besides what relates to these objects there are, however, other parts of the work upon which it will, perhaps, appear that the Author's claims are of a somewhat different nature :—such, as make a nearer approach to originality.

In chapter III. entitled “Theory of Cancer,” an attempt has been made to account for the phænomena of the disease upon strict pathological principles. It would be too much, perhaps, in the present state of things, to expect that such an attempt should be entirely free from objection ; and yet the difficulties that attend it do not appear either numerous or insurmountable. The question relative to the local or constitutional nature of Cancer has been set in what is conceived to be its true light ; and the rationality of the

practice of excision deduced from it. It is much to be regretted that we have not yet been furnished with more certain data, to enable us to estimate the comparative value of this operation. To effect so desirable an object, it would be expedient that every surgeon, who is in the habit of operating for cancer, should be at the pains to preserve the morbid structure of the part which is thus removed. He should also possess himself of a few notes, illustrative of the previous stage and progress of the disease. Having performed the operation, he ought then to attend carefully to the subsequent history of the case, and mark its event ; whether favourable or otherwise. Thus, with but little trouble, might he secure all the information necessary to constitute a valuable record. By comparing a number of these documents together we should have it in our power to calculate the probable chance of success from an operation in any given case.

It is recommended to preserve a specimen of the morbid structure, as a cautionary mea-

sure, tending completely to exclude all room for scepticism concerning the real nature of the disease.

In cancerous affections of the breast, the removal of the whole substance of the mammary gland is thought to be a circumstance highly deserving of attention in the performance of the operation.

These then are some of the principal points to which the reader's attention is particularly requested.— Should it hereafter appear that this little work has in any degree contributed to lessen the general sum of human misery, the Author will feel himself greatly more than repaid for the time and attention which he has bestowed upon it.

TO
ASTLEY COOPER, ESQ. F. R. S.

LECTURER ON ANATOMY AND SURGERY, SURGEON
TO GUY'S HOSPITAL, HONORARY MEMBER OF
THE ROYAL MEDICAL SOCIETY OF EDINBURGH,
&c. &c.

Dear Sir,

In prefixing your name to this little volume, which contains the first public fruits of my professional labours, it may reasonably be supposed that I have in part been actuated by those motives of justifiable policy, which are every day seen to exert so powerful an influence upon the conduct of mankind in general.

If such sentiments do, however, at this moment occupy a place in my breast, it is not, I am willing to hope, to the exclusion of others more reputable to their possessor, and of a less selfish nature.

Very ill, indeed, would it accord with my present feelings, were I to pass over unnoticed the many friendly attentions which you have shewn me, since I had first the honour of being known to you, as your pupil. The kind of impression that has been thus communicated is assuredly such as will not admit of being readily effaced.

That you may long continue equal to the exercise of those arduous and important duties which are connected with your situation, as a public teacher, and that those around you, emulating your example, may likewise imbibe a portion of your enterprise and zeal for the improvement of a most useful profession, is the sincere wish of,

Dear Sir,

Your truly obliged

and obedient Servant,

CHRISTOPHER TURNER JOHNSON.

EXETER, JAN. 5, 1810.

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PRACTICAL ESSAY

ON

CANCER.

CHAP. I.

GENERAL OBSERVATIONS ON CANCERS.

THE term Cancer is employed, in the language of Surgery, to denote a particular connected train, or series, of morbid phenomena, occurring in the human body.

When we consider that the remote origin of this disease is such, as entirely to elude historical research, it can hardly be supposed that a sufficient length of time has not already elapsed, to admit of its full and complete investigation. The fact, however, will be found to be

very far otherwise ; for, with all the assistance to be derived from the multiplied observation and experience of past ages, we are unable, even at this day, to assign to cancer its distinctive nosological characters.

The very loud complaints which are heard, respecting the difficulty and uncertainty of diagnosis, can be regarded in no other light, than as so many indirect acknowledgments of our imperfect acquaintance with the history of this disease. So far, also, as relates to the curative indications in the medical treatment of cancer, it is melancholy to observe how very little progress appears, at any time, to have been made.

The total inefficiency of the art of Medicine in many diseases, though a truth but too well established, cannot, however, be thought to afford any sufficient reason, why it should either be hastily condemned, or fastidiously rejected, as useless. It may, and doubtless does, in many instances, disappoint our expectations, not from any defect inherent in itself, but ra-

ther from our inexperience and want of sufficient knowledge to direct its powers in a proper manner.

Without being conscious of it, we are often led, by a natural bias of the human mind, to attribute our want of success in the different affairs of life to causes, which are fixed and immutable in their nature : and, although a more enlarged experience has frequently served to convince us of the erroneousness of such a procedure, yet it is but too clearly apparent, that if these lessons have been at all attended to, we have not duly profited by them. A persuasion, indeed, of this kind, if it were to become generally prevalent, must, by deadening all the nobler energies of the mind, oppose one of the strongest and most effectual bars to every kind of improvement in science.

These observations, though general in their nature, will yet admit of a ready application to the healing art : and it is here that the pernicious tendency of such principles, as are above alluded to, is especially to be deprecated. To

ment of character, as would, with strict propriety, allow of individual cases of disease being included under a general definition. This has most unquestionably been one very fertile source of error ; and, while speaking of it, I may, therefore, advert to the necessity which there exists in every philosophical investigation, of setting out with a clear and distinct conception of the particular object of research ; for in what case, let it be asked, ought this mode of reasoning to be more forcibly insisted on, than where our inquiries relate to the nature and cure of diseases ? These, it deserves well to be recollected, are matters which involve considerations of much more than speculative importance.

The promiscuous and unguarded use of the term cancer has tended more, perhaps, than any other single cause, to retard the progress of our knowledge concerning those affections which really deserve the appellation. No one ever pretended that we should be warranted in applying the same epithet, indiscriminately, to every different case of disease, merely on ac-

count of its proving untractable : and yet, with respect to the subject of the present inquiry, this very thing seems to have been done, without the least scruple or hesitation. It is sufficiently obvious, however, that, in order to constitute the identity of any two cases of disease, something more must be required than such vague and very distant features of resemblance.

There is yet another circumstance, which, as it occasionally appears to have given rise to deception, may here, perhaps, also be deserving of a few words.

External disease, appearing under the form of either tumour or sore, will sometimes, from accidental causes, assume an appearance of malignancy, which it does not in reality possess : and, viewed in this state, there is reason to believe that various other morbid affections have at different times been mistaken for cancer, and treated accordingly.

Upon one or other of these grounds may be explained the fleeting reputation of divers means of cure, that have for a while attracted public notice, and again sunk into insignificance and neglect. It is, likewise, owing to the same causes, that the weak and credulous so often become the victims, either of procrastination, or, what is still worse, empirical rashness.

There are yet, comparatively, but few cases of cancer upon record, which have not lost more or less of their sterling value, by want of due attention to some of the particulars which have been here mentioned. It is by giving precision to our language, and by this alone, that we can ever hope to obviate those frivolous and unmeaning disputes, which, turning upon the different interpretation of particular words and phrases, infest medical science, in common with almost every other branch of useful knowledge.

If to any one it should appear that I have dwelt upon this topic longer than ought to

have been done, in an essay professedly practical, I can only say, that it has arisen from a firm persuasion of the benefits which would accrue to science, if such considerations were more generally attended to than they have been.

An attempt is still worth making, to establish a more intimate connexion than has hitherto subsisted, between the word cancer and the particular phenomena of which it should be expressive. This would require that its precise extent of signification should be clearly and accurately defined: which, though it might have the effect of excluding from the catalogue many diseases vulgarly called cancerous, must yet be a principal means of promoting careful and accurate observation. In prosecution of this plan, it is likely that we should in time become better qualified to mark the nicer distinctions, and shades of difference, which separate this complaint from every other.

The experience of the past would alone be sufficient to warrant such an attempt; but, upon

the present occasion, as it will certainly be expected of me, so I shall endeavour to treat of cancer agreeably to the usual acceptation of the term.

In the natural constitution of the human body, there is a curious provision for the repair of all those slighter derangements of structure, to which it is most liable from accident: and even in many diseases of doubtful, or obscure, origin, the beneficial agency of a similar power is not less eminently conspicuous. Cancer, however, furnish us with an example of disease, in which no one salutary effort of nature is observable; and this I must alledge, notwithstanding what has been advanced to the contrary, in a publication of very recent date. While daily opportunities are afforded of witnessing the unvaried progress of this disease from bad to worse, it cannot be expected that the supposed "principle of natural separation" should receive much notice.*

* Vide Young on Cancer

It would be quite impracticable to offer any thing like a regular or connected history of those affections, denominated cancerous, except by describing their individual appearances and and progress in particular parts of the body. To do this, therefore, with accuracy, must be considered as fundamental to the success of our future inquiries.

The words scirrhus, carcinoma, and cancer, have been variously employed, in extent of signification, by almost every different writer; and from this circumstance it becomes necessary to explain the meaning, which is intended to be attached to them in the subsequent parts of this Essay. Cancer, as a general term, will be used to express every gradation in the disease, from its commencement to its termination; but, as it may sometimes be desirable to speak in a more limited sense, I shall, for this purpose, and in compliance with custom, distinguish two principal stages of the disease: the scirrhus and carcinomatous. Under the scirrhus stage, I would include every physical change, cognizable to the senses, which hap-

pens previous to ulceration. The establishment of this process will then, of course, serve to mark the beginning of the carcinomatous stage.

In proceeding now to treat individually of the different parts of the body most liable to be affected with cancer, I shall begin with the female breast ; a glandular organ, which, from its very great aptitude to suffer, seems to claim the right of precedence.

CHAP. II.

HISTORY OF CANCER.

SECT. I.

OF CANCER OF THE BREAST.

CANCER OF THE BREAST, in its incipient state, is not unfrequently attended with a slight discharge of blood, from the mouths of the lactiferous tubes, which open upon the surface of the nipple ; and, concomitant with this, it will often be found, that, on attempting to raise the arm, there is a degree of pain excited in that part, which corresponds to the insertion of the greater pectoral muscle.

It is of some importance to be acquainted with these early symptoms of the disease ; although it is not to be expected that they should in every case be discoverable. Even when present, their severity is very rarely such as to awaken any suspicion of their real nature in the

mind of the patient : and hence it is that so few opportunities are afforded of observing the disease at this early period.

The sudden formation, however, of a small hard tumour, loosely situated within the glandular substance of the breast, is a circumstance, which, when it has taken place, cannot long escape observation ; and, in the greater number of instances, this is the first sensible change that attracts the patient's notice. So little, either of pain or inconvenience, accompanies the formation of a tumour of this sort, that the very discovery of its existence is often matter of pure accident. During the earlier part of its progress, it remains comparatively indolent, and is even without pain on the application of a moderate degree of pressure : neither as yet is there any alteration to be discovered in the general form or appearance of the breast.

In no very great length of time the patient begins to complain of occasional transitory pain, in the situation of the tumour. These

pains recur at very irregular intervals, and are dependent upon causes, concerning which nothing satisfactory is known. If the female be of such an age that the catamenia have not altogether disappeared, she will always suffer a considerable exacerbation of pain in the breast, about the time of their recurrence. The tumour will likewise undergo a proportionally greater augmentation of bulk, than during the same space of time at any other period. Precisely the same effects are observed to arise from any external violence that may be done to the part; as, where a blow, for instance, has been accidentally received upon the breast.

The pain which accompanies this stage of the disease is of a peculiar kind. It is common to hear it described as lancinating, or, as if one or more sharp pointed instruments were entering the part. To this, as a general position, there occur but few exceptions; and it has, therefore, been usual at once to consider such sort of pain as characteristic of cancer. Taking it along with other collateral circumstances, it certainly does afford some assistance

in determining the nature of the disease, but yet it is far from deserving to be looked upon as a pathognomonic symptom.

Mr. Home has related a case, to shew that where the pain is very violent and continued, it may sometimes depend upon the mechanical extension of a nerve. This he thought was proved by the instantaneous relief which followed the division of a nervous filament, in the performance of one of his operations.

The progress of scirrhus varies very much in different individuals, with respect to the length of time required for it to pass through its various stages. This would seem, in some measure, to depend upon the greater or less degree of irritation, to which the diseased part may be subjected, whether from external causes, or from some particular change or condition taking place in the bodily functions. Another circumstance will be adverted to in a future part of the Essay, which also appears to influence greatly the progress of the disease.*

* See Chapter IV.

As a general rule of Prognosis, in Cancer, it has been said, that in proportion to the rapidity of the progress of any individual case, so is its degree of malignancy. This observation has often been put to the test of experience, and will, it is believed, generally be found to hold true in practice.

In tracing the gradual advancements of the disease, it is observed that the tumour goes on to increase in size, though by imperceptible degrees. It retains the same stony hardness as at first, but gradually becomes more blended with the contiguous parts, and in consequence of this is less regularly defined. When handled, it feels heavy, and is generally either tuberculated, or, at least, unequal, upon its surface.

As these changes take place in varied succession, the tumour also becomes less moveable, from its contracting adhesions with the surface of the pectoral muscle—The pains also recur more frequently, and with greater se-

verity ; though, even at this period, they will sometimes scarcely be felt for days together.

It is not always that a breast, affected in this way, will be absolutely increased in size ; for the very reverse of this is often seen to happen, notwithstanding the partial induration.

About this period, when the tumour is beginning to form adhesions to the subjacent parts, or even earlier, it is not uncommon to find one or more of the axillary glands, on the same side of the body, enlarged. There is sometimes a solitary gland situated over the outer edge of the pectoral muscle, between the breast and axilla, which deserves notice, because, when present, it is, of course, the first to become affected.

This enlargement of the lymphatic glands is not always manifest till after ulceration has taken place over the tumour ; and, in a few rare cases, it is observed not to happen at all, although the disease still goes on to prove fatal. There are, also, examples, where the glands

of the axilla have escaped, while the disease has been propagated to those which are situated just above the clavicle.

When the lymphatic glands, in whatever part they are situated, begin to participate in the original affection, they grow hard and painful, with some feeling of inequality upon the surface. It is often, however, very difficult, and perhaps impossible, to distinguish between the truly scirrhus enlargement of these glands, and that which is so frequently seen to arise in scrofulous constitutions. In every case of this kind, in which there may be doubt, it will, at any rate, be proper to examine the state of the lymphatic glands in other parts of the body; and, more particularly, in the neck and axilla of the opposite side. The information which may, in this way, be obtained, taken in combination with the general history and appearance of the patient, will materially assist us in ascertaining the nature of the case. The peculiar kind of shooting pain, which is generally attendant on scirrhus structure, may, also, serve to facilitate the distinction.

It has been said, that such of the lymphatic glands, as are situated in the immediate vicinity of the diseased part, may undergo a degree of enlargement from simple irritation. This, however, never seems to happen, except where some accidental inflammation is present in the early stages of a scirrhus: besides which, it further admits of being distinguished, by yielding to those means, which are calculated to lessen and subdue inflammation in ordinary cases. The axillary glands will sometimes become so enormously enlarged, from cancer, as, by the constant pressure which they exert upon the lymphatics, and nerves, to occasion considerable œdema and numbness of the whole limb.

In the past history of scirrhus of the breast it has generally been observed, that the subcutaneous veins, running over the tumour, are greatly augmented, both in point of size and number. This, however, if it were really true, is not by any means peculiar to scirrhus: for the remark is applicable to many other tumours of a very different character. It ought also to

have been known, that in numerous examples of the scirrhus breast, not a single superficial vein is to be discovered; and this is particularly remarkable in those cases, where the substance of the mammary gland has undergone any considerable diminution in point of size.

When the disease of the breast approaches near to the surface, the integuments which had hitherto retained their natural appearance begin to appear puckered, or as if they were drawn together into folds. From this cause the nipple will sometimes be so completely retracted, and buried, as it were, in the surrounding parts, that, by a superficial observer, its existence might easily be overlooked.

As the disease makes further advances, the skin becomes inseparably united to the tumour which is situated beneath it; and in a little time more it may be observed to have acquired a slight tinge of redness. The other characters of inflammation are likewise present, though some of them in an inconsiderable degree. After this, the whole surface of the

swelling gradually puts on a purple shining appearance, and in this state it continues, with but little change, till ulceration is about to take place.

From the great exacerbation of pain, which usually happens at this period, a degree of febrile irritation will often be excited in the system at large. At length, the superincumbent parts give way to ulceration, and the patient experiences temporary relief, from the discharge of a small quantity of ichorous, or sanious, matter.

As far as the Author's observations have extended, it is not, in general, till after some time, that the ulceration becomes deep, and excavated ; for, under mild treatment, he has often seen it continue quite superficial, for many months. Sooner, or later, however, the carcinomatous ulcer assumes its proper characters. It penetrates deep towards the more central parts, while, at its circumference, the edges appear hard, elevated and everted. The surrounding skin puts on a livid aspect ; and

from the surface of the sore there is a considerable discharge of an irritating quality. Matter, of a fairly purulent appearance, is hardly ever furnished by carcinomatous ulcers ; though something like an approach to it may occasionally be observed. The odour of the discharge impresses the organ of smell with a peculiar, but indescribable, sensation.

If the ulceration be at all extensive, it may then be distinctly seen, that while one part of the sore is undergoing a sloughing process, another will be active in throwing forth luxuriant granulations, of a loose and spongy texture. These changes sometimes appear to alternate with each other, upon the ulcerated surface ; and, in their further progression, give rise to such hæmorrhages, from the erosion of vessels, as ultimately to prove destructive of life.

Thus have I carefully endeavoured to trace the ordinary course of the disease, when it is allowed to proceed, unmolested, to its natural termination. It is only to be wished that the Surgeon had fewer opportunities afforded, of

witnessing the distressful scene, which cancer, in its latter stages, offers to his contemplation : —at a time, when he well knows that all the resources of his art can avail nothing.

Cancer of the breast does not, however, always terminate in precisely the same uniform manner ; for it has been known to prove fatal, without ever arriving at the carcinomatous stage. This has been particularly remarked in those cases, where the lymphatic glands of the neck, and axilla, shew no perceptible marks of contamination.

Sometimes the disease will be propagated by continuity of parts, till it reaches either the cartilages, or periosteum, of the ribs : and from these it is in like manner extended to the substance of the lungs. On other occasions, it seems to be conveyed by certain lymphatic vessels, which take their course from the breast through the cavity of the thorax. The glands, through which these vessels pass, before arriving at their termination, undergo exactly the same changes, that have been described as

happening to those which are situated more exteriorly in ordinary cases.

From the derangement which is occasioned in the functions of the lungs, by either of the morbid conditions of parts, just mentioned, there gradually comes on dyspnœa, attended by cough, and some degree of emaciation. These symptoms are generally followed at no great distance by the fatal event ; and that, often, without any remarkable alteration in the external appearance of the breast.

It has been imagined that cancer of the breast begins, also, sometimes by an uniform enlargement taking place throughout the whole of the gland ; and this accompanied with an increase of its firmness. The pain, however, in this case, is not of that peculiar kind, which usually attends scirrhus structure : but is described rather as an uneasy feeling of weight and tension. In addition to this, it may be observed, that the parts possess a much greater degree of sensibility, than they ever do in the instance of a real scirrhus. It is true that, like

as in scirrhus, the pain of the breast is always increased about the period of menstruation; but, in every other respect, the nature of the disease is widely and essentially, different. The affection, of which I am now speaking, occurs only in the earlier part of life; and, unless very far advanced, will soon give way to topical evacuations, and a strict observance of the antiphlogistic regimen. In a few rare instances, an operation has been deemed expedient for its removal; but principally however on account of the bulk and inconvenience of the tumour. In such cases there can be nothing afterwards to be apprehended about a return of the disease.

An affection, not very dissimilar to what has been last noticed, occurs under nearly similar circumstances, and with the same train of symptoms. The principal mark of difference consists in its being more confined to some particular part of the breast. The same mode of treatment has here, likewise, been found successful as in the former case.

Cancer of the breast is chiefly a disease of middle and advanced life. From forty to fifty years of age is, perhaps, the most frequent period, at which it first makes its appearance.

It is a fact well worth knowing, that this disease has occasionally shewn itself in both breasts at the same time ; or as nearly as this could be ascertained by observation. More commonly, however, where both breasts are affected, there is a longer or shorter interval of time between the two attacks.

SECTION II.

OF CANCER OF THE UTERUS.

THIS female organ, next to that of the breast, seems to be most liable to suffer from cancer ; and, indeed, the two affections, though generally appearing singly, and distinct of each other, have, nevertheless, frequently been found to co-exist in the same Individual. Like cancer of the breast, it is a disease of comparatively rare occurrence before that period of life, at which the catamenia usually disappear ; but still, as a general position, this does not hold, without numerous exceptions. The intention of the Writer is simply to mark a connexion, which is frequently observed, between these phænomena : and not to imply, that they stand at all in the relation of cause and effect to each other.

Cancer of the Uterus is a disease, which has frequently been mistaken, and confounded, with others, that bear no comparison with it in point of danger ; and this renders it of the greater consequence that we should particularly attend to all those circumstances, which may enable us (though it be only with a view to prognosis) to distinguish it from every other morbid affection of the same part.

The early symptoms of the complaint very nearly resemble those of Polypus, and Prolapsus Uteri ; among which may be enumerated, a sense of weakness, with pain, or uneasiness in the loins ; leucorrhæal discharge, and, this accompanied by occasional bearing down pains. To these may further be added a sense of weight, and fullness, in the region of the Pelvis : and more or less of general derangement in the functions of the chylopoietic viscera.

When these symptoms are present, a decided opinion ought never to be given as to the nature of the complaint from which they originate, previous to actual examination ; and, with

this, it is therefore the duty of every practitioner to make his patient acquainted. The necessity of this practice cannot be dispensed with, if we mean to consult either our own reputation, or the patient's real interest.

With regard to the acute shooting pains, which are felt in a direction across the cavity of the pelvis, they cannot, with any certainty, be confided in, as diagnostic of cancer. Pain, in coitu, is another symptom, to which the same observation, but with still greater force, may be extended.

On examination, in the early stages of this disease, the os uteri is discovered to be partially thickened and indurated, with an increase of size, in its natural aperture. It sometimes happens that the Enlargement begins higher up, in the cervix uteri, the os uteri remaining closed. In both these cases the uterus appears to be situated lower in the vagina, than it is usually found in the healthy, unimpregnated state; and, when supported upon the finger,

there is perceived to be a sensible addition to its weight.

The painful symptoms here, in like manner as in the breast, come on, at various lengths of time, and may be more or less violent in different cases. After ulceration has once taken place, there will be a constant discharge of an offensive, sanious matter from the vagina. If an examination be again instituted, the os uteri is found to be more open, and with ragged irregular edges. Pressure upon these parts will now occasion some degree of pain ; and if the attention be directed to it, a little blood will commonly be observed to come away, afterwards, upon the finger.

About this time, the vagina undergoes a considerable deviation from its natural and healthy structure. It becomes almost cartilaginous to the feel, and its rugæ cease to be any longer distinguishable. At the superior part it will often be considerably affected with carcinomatous ulceration, communicated from the os uteri, by contiguity of surface.

The acrimony of the discharge, from its tendency to produce excoriation of the parts with which it comes in contact, is another additional source of distress ; but this effect may, however, by proper care and attention, be, in a great degree, obviated.

As the different functions of the body get more and more out of order, emaciation goes on with proportional rapidity. Frequent retching and vomiting, with torpidity, or irregularity, of the bowels, are but so many proofs of the derangement which has taken place throughout the whole tract of the alimentary canal. Much inconvenience may also be expected to arise, from the various sympathetic affections of the urinary organs.

Under such a complicated load of suffering, and wretchedness, patients are exceedingly prone to fall into a state of mental dejection, and despondency ; in order to relieve which, some women have had recourse to the pernicious use of distilled spirits, so as to keep themselves in a state of almost constant inebri-

ation. The destructive tendency of such a habit, considered only in a medical point of view, though familiar, is yet often overlooked : and it is on this account that I have here taken notice of a fact, which leads me again to condemn the practice.

Towards the latter periods of the disease, if the ulceration in the vagina become extensive, it will frequently give rise to enlargement of the absorbent glands in the groin ; and this sometimes arrives at such a degree, as to occasion œdema of the whole lower extremity.

A little while before death, it is not uncommon to have the ulceration extended from the vagina, both into the rectum, and urinary bladder. As soon as this event has taken place, the excretions of these parts begin to pass off insensibly, and continue to do so, till such time as the powers of life are fairly exhausted and worn out, by the irritation. At this period, death can only be considered as putting a friendly termination to the patient's sufferings ; for it is scarcely in the power of imagination

to conceive any situation more truly calamitous, than that of a rational being under the circumstances which have been now described.

It does not, indeed, always happen that life is protracted to so late a period in this disease, as it will sometimes give way to a sort of hectic fever, or long continued irritation, of a less violent nature.

It is but rarely that any thing like a fatal hæmorrhage proceeds from these parts, when affected with cancer.

The length of time which this disease takes up to complete its tragical course varies, in different instances, from four or five months, to as many years. Indeed, I recollect to have heard of one case, in which nine years were said to have intervened, from its first commencement to its termination.

It is, perhaps, more difficult to distinguish cancer of the uterus from venereal ulceration, than from any other morbid affection, to which

it is known to be liable. Mr. Pearson has, however, pointed out the proper marks of distinction which are to be observed ; and, in matters of this sort, there is scarcely any thing which may not be expected from his well known accuracy of observation, and extensive experience. I shall, therefore, beg leave to transcribe his own words, in order that the sense may not suffer from any injudicious attempt at abbreviation.

“ Women,” says he, “ who are exposed to the contagion of venereal matter, generally perceive its first effects upon the external parts of generation ; but this position is not without exception, for the uterus may be the first and only part contaminated. When this is the case, the primary symptoms produced by the virus are a sense of great heat, and darting pungent pains about the uterus ; but these are not always accompanied by a puriform discharge, nor is the fluor albus necessarily increased by this affection. Those unhappy women, who have this peculiar affection of the uterus, and who live in the habit of promiscuous intercourse with

men, generally discover the nature of their complaint, by having very undesignedly communicated the disease to some of their associates in this illicit commerce : for, as they are commonly free from any external characters of a venereal taint, they can only acquire a knowledge of their own condition from the injury they do to the other sex. They also complain of suffering very acute pain at the superior part of the vagina in congressu : this act is likewise frequently attended with the discharge of a fluid tinged with blood, and sometimes pure blood is evacuated. When men are affected by women in this peculiar condition, a chancre is commonly the first symptom of the disease. When the uterus is examined, it seems to be rather enlarged, and excites, the sensation of præternatural heat : considerable uneasiness will be produced even by gentle pressure, and small ulcers may be distinctly perceived about the os uteri. The disease may continue in this state during many months, without producing any secondary symptoms of the lues, but the health of the patient gradually declines, and she sometimes

becomes hectic. In every case of this kind that I have yet met with, the uterus retained its natural pendulous state; there was no eversion nor remarkable dilatation of the os uteri: the ulcers were smooth and even: there were no fungi, nor any unnatural alteration in the structure of the vagina. The pain attending this form of the disease was neither constant nor acute. The venereal ulcers of the uterus yield to the same mode of treatment that is generally employed for the lues venerea.”*

* Vide Pearson's Practical Observations on Cancerous Complaints, &c. Sect. XII.

SECT. II.

OF CANCER OF THE TESTICLE.

AMONG the various morbid alterations of structure, to which the testicle is liable, I do not hesitate to include cancer. The disease begins here, the same as in all other glandular organs, by a partial induration ; and in all the cases which I have had an opportunity of examining, at an early period, this tumour appeared to be placed within the body of the testicle. Mr. Pearson is, however, of opinion that there exists a greater degree of latitude in this respect : for he says, that the epididymis, or even the spermatic cord, may be the first part to become affected ; but, since no example of this kind has hitherto occurred within the writer's observation, he must be content with having mentioned the fact as resting upon so respectable an authority.

The description of the scirrhus testicle which I am now about to offer will apply only to that case, where the disease begins in the secretory organ itself, and not in any of its appendages.

On account of its particular situation, beneath the tunica albuginea, the scirrhus tumour of the testicle is never, even at an early period, very distinct from the substance of the gland ; and, after a little time, it may be expected that the two bodies will become so intimately incorporated with each other, as to preclude all possibility of distinguishing their respective limits.

The whole tumour then goes on gradually to increase in size, and in its course is attended with nearly the same general symptoms and appearances, that have already been described as belonging to the cancerous breast. The progress of scirrhus of the testicle is, generally speaking, slower than where the disease occurs in other glandular parts ; but yet it is capable of being more or less accelerated,

according to the degree in which the different causes of irritation, whether local or constitutional, are permitted to have influence.

The acute darting kind of pain which belongs to this disease is at first confined to the precise scite of the swelling: but it will afterwards extend, in the direction of the spermatic cord, to the abdomen, and even as far as the spine. This pain is likewise marked by extreme irregularity in its periods of recurrence.

The mere weight of the tumour is alone sufficient to produce a painful, dragging, sensation in the loins: but this is essentially different from what has been just spoken of, and can at any time be obviated by the proper use of a suspensory bandage.

In process of time, the natural shape of the gland becomes totally obscured, and nothing remains to be distinguished, but one uniform enlargement, remarkable chiefly on account of its great weight, and excessive degree of hardness. The surface of the swelling is also ge-

nerally more or less studded with protuberant inequalities.

When the disease begins to extend, it proceeds first from the testicle to the epididymis, and thence by the lymphatic vessels of the cords, till it arrives at the lumbar glands, where it ever afterwards remains fixed. In this course there is produced great thickening and induration of the different parts through which it passes : and it is from a knowledge of this circumstance, that the surgeon is, with greater probability, enabled to judge of the state of the disease, and to concert his measures accordingly. An irregular, or knotted, feeling of the spermatic cord is another, and a still more striking, effect of the extension of the disease.

After the process of contamination has reached the lumbar glands, it causes them to enlarge, in such a way, as, by their pressure, to occasion great derangement in the functions of the various neighbouring viscera. At this time, a considerable prominent tumour may be distinguished through the parietes of the abdo-

men, consisting of a cluster of these enlarged lymphatic glands.

The testicle itself never attains any very remarkable degree of magnitude ; for before a sufficient length of time could elapse for this to take place, the increasing pain and irritation of the disease are usually such as to destroy the patient. In the same manner may, perhaps, be explained, the rare occurrence of carcinomatous ulceration, -extended from the testicle to the surface of the scrotum. This, indeed, is so very seldom observed to happen, that it has furnished grounds to a celebrated public teacher, for denying the existence of any such disease as cancer of the testicle. This opinion, however, could only, I conceive, have originated from neglecting the distinction which ought to be made between what may be called the essential symptoms of disease, and those which are only accessory.

It cannot be denied, that there subsists a most perfect agreement, and analogy, between that case of the cancer of the breast, which

proves fatal by an affection of the lymphatic glands, within the thorax, and the disease of the testicle now under consideration. In the instance of the breast, just quoted, there is sometimes nothing to be discovered like an approach to ulceration, before the disease proves fatal ; and, therefore the same arguments, which have been employed to disprove the existence of cancer of the testicle, might here, also, be applied with equal force and propriety.

Dr. Baillie and Mr. Pearson both speak decidedly respecting carcinomatous ulceration of the scrotum ; and the concurring testimonies of such men as these will, surely, more than counterbalance any negative evidence that can be adduced to the contrary.

It does not, however, seem at all necessary that the decision of this question should either rest upon mere reasoning, or matter of authority ; for if it be allowable to arrange certain diseases, according to the phænomena of morbid structure which they exhibit on dissection, no one will, assuredly, in this respect, be able to

distinguish between scirrhus of the breast, and that disease which I have so named of the testicle.

Of scirrhus structure, as it appears in glandular parts, it is proposed to speak more particularly hereafter.

There is another disease, which, by some surgeons, has been called the soft cancer of the testicle; but it is, in its nature, so essentially different from what has been already noticed, that it seems very wrong to confound the two affections under the same common appellation. It can hardly, therefore, be considered as incumbent upon me to take any further notice of it at this time.

What I have here ventured to name cancer of the testicle, is a disease which belongs chiefly to the middle periods of life, as from forty to sixty years of age. In this respect it differs from the scrophulous testicle, which is principally seen in young subjects, and is unattended with any severe pain or material injury to the

general state of health. It is, likewise, much softer to the feel, and not, by any means, so heavy as the scirrhus testicle.

It is scarcely possible to conceive that simple inflammation of the testicle, going on to supuration, could, by any one, be mistaken for cancer.

On the subject of venereal sarcocoele, as it has been called, I must again beg leave to quote Mr. Pearson. "The venereal sarcocoele," he observes, "has a much greater resemblance to the hydrocele than to the scirrhus testicle. As far as I have observed, this complaint occurs most frequently in those cases of lues venerea, where there are tubercles or venereal ulcers upon the scrotum. The testicle is always considerably enlarged, and feels remarkably soft and puffy : its figure is not much altered, but the spermatic cord is generally thickened, and the patient complains of an obtuse pain extending to the loins. Sometimes it is accompanied

with the scrotal anasarca, but this is not a constant appearance.”*

These few observations have been introduced, to facilitate the distinction between cancer of the testicle, and every other disease of that organ.

Having now treated of cancer, as it appears in different parts of the body, possessing more or less of a glandular structure, I shall next proceed to describe it as occurring under the form of a primary disease, in the cutaneous texture.

* Vide Pearson's Practical Observations on Cancerous Complaints, page 59.

SECT. IV.

OF CUTANEOUS CANCER.

MANY parts of the surface of the body are liable to become the subjects of this morbid affection; but as it every where preserves a general uniformity, both in its symptoms and progress, it would be a total waste of time to describe each case individually, as I have done with respect to cancer occurring in glandular organs of different and various uses.

Cutaneous cancer, at its commencement, usually appears under the form of a small præternatural enlargement, or elevation, of the skin. In feeling and consistence it is sometimes so hard as to approach to the nature of horn; while, on other occasions, it will bear a much nearer resemblance to a common wart. There are, besides these, some few instances, in which it would look to be no more than a little discoloured pimple.

Whatever form the disease may at first assume, there will invariably be found to take place a degree of surrounding hardness, seldom or ever to be met with under other circumstances. Some degree of shooting pain is likewise, from time to time, experienced in the part. In many of these cases ulceration seems to be materially accelerated, by the accidental irritation of the patient's fingers, which are very often, though unconsciously, employed in the vicinity of the disease. Sometimes, however, a sort of scale is generated, so as to form a compleat covering of defence to the little tumour, and this will be artificially removed, and again renewed several times in succession, before ulceration is fairly established. This phænomenon is seen most remarkably in that affection of the scrotum, peculiar to chimney sweepers.

When the part has once arrived at a state of ulceration, it soon puts on those characters of malignancy, which have occasioned it to be classed as a species of cancer. The surface of the sore possesses, indeed, the common ap-

pearances of carcinomatus ulceration : and there is also a discharge from it, of sanious, or otherwise ill-conditioned, matter.

In this affection it seldom happens that the lymphatic glands begin to enlarge, or grow painful, till after the diseased part has been in a state of ulceration for some considerable time ; and, knowing this to be the case, we are led, by a very natural comparison, to set it down as one of the striking points of difference between cutaneous cancer, and that which has its seat in glandular structures. This fact is further deserving of notice, as being a principal cause why the operation of excision has proved so much more generally successful in the former, than in the latter, of these two cases.

The particular situations which cutaneous cancer is most frequently observed to occupy, are the lower lip, the angles of the eyes, and the *alæ nasi* ; but some of these parts are also liable to another affection, which, though in its nature very widely remote from cancer, still bears a good deal of resemblance to it, in

appearance. What I here allude to is a disease which has been described by Dr. Willan, under the generic name of lupus. It begins under the form of numerous small brown pustules, which soon go on to a state of ulceration. The parts, upon which it commonly first seizes, are the forehead, the eyebrows, *alæ nasi*, and upper lip. When this disease is situated in the nose, it is not the soft parts, alone, that suffer from its destructive effects ; these will, in the course of time, be extended, so as to affect both the cartilages, and turbinated or spongy bones.

The ulcer of the soft parts extends slowly, having a dusky, copper-coloured disk, and attended, likewise, by a good deal of surrounding hardness.

This disease may generally be distinguished from cancer, by a careful attention to the following circumstances. Lupus is chiefly seen to occur in young people ; while, on the contrary, the cutaneous cancer is scarcely ever observed, except in those who are considerably advanced in life. Cancer, again, hardly ever

attacks the upper lip, though it is perhaps one of the most frequent seats of lupus. The pain too, in cases of lupus, is never very violent, or acute ; and indeed the disease itself generally admits of being cured in no very great length of time, by means of mild external applications.

Mr. Pearson mentions that he has frequently met with an ulceration of the upper lip, in persons labouring under the secondary symptoms of lues. This ulceration, he adds, possesses every sensible character of cancer, and can only be distinguished by its combination with other venereal symptoms, and by its immediately yielding to a course of mercury.*

What has been now said, concerning the general history of cutaneous cancer, applies with so much exactness to that case, where the disease occurs upon the penis, as to supersede the necessity of considering it at any great length.

* Vide Pearson's Practical Observations on Cancerous Complaints, page 91.

At its very commencement, cancer of the penis is most liable to be mistaken for a venereal wart; and, though it may not always be practicable to draw the line of distinction with that certainty, which is, in such cases, desirable; still, between the two diseases, there are certain points of difference that deserve at least to be kept in recollection.

Venereal warts are seldom observed to occur singly upon the penis; whereas the cancerous affection begins in a small point; from which, as a centre, it afterwards diverges, and is extended around in every direction. Where the morbid growth is only of the nature of a venereal wart, its appearance will generally be found to have been preceded by some irritating cause, situated either in the part itself, or its immediate vicinity. The age of the patient, with his former habits of life, will likewise, in some degree, assist us in forming a right judgment of the nature of the case.

It has been observed of the excrescence, which is the precursor of carcinomatous ulcera-

tion in the penis, that it has a broader base than the venereal wart; and is also more intimately connected with the subjacent parts. These marks of distinction must, however, from their very nature, be imperfect; as it is well known that venereal warts are far from being all alike, in possessing either the same degree of mobility, or extent of basis. As good a criterion as either of these might, perhaps, be found in the peculiar hardness, which surrounds the cancerous excrescence.

At a more advanced period, the different sensations, which accompany these two cases of disease, will scarcely admit of their being confounded, or mistaken for each other.

SECTION V.

OF CANCER OF THE EYE.

The organ of vision is another important part, which is subject to a disease, that has received the appellation of cancer. This consists in an entire disorganization of the ball of the eye, attended by severe shooting pain, which, from being at first partial and confined, extends gradually so as to affect the whole head, and disturb the functions of life. In an advanced stage of the disease, the orbit appears filled with a sort of fleshy tumour, having an unhealthy granulated surface, from which it is disposed to bleed profusely, even upon the most trivial occasions. These hæmorrhages are more particularly liable to happen, when, as is sometimes the case, the tumour appears beyond the margin of the orbit, so as to project the eyelids out of their natural situation.

From the latest and most accurate observations, that have been made upon this disease, both in the living body, and likewise after death, it appears to have its origin in the retina, somewhere about the entrance of the optic nerve.* On looking through the pupil, to the bottom of the eye, at that period when vision first becomes obscured, there is observable a small shining body, with somewhat of a metallic lustre upon its surface. This is gradually augmented in size till such time as it occupies the whole interior of the globe of the eye; and, under such circumstances, the sight is necessarily destroyed. Both eyes are occasionally seen to be affected with this complaint at the same time, and in different stages of their progress. It differs from almost every other cancerous affection, in being generally a disease of early

* In what relates to the history of this disease, the author is greatly indebted to his friend J. C. Saunders, esq. Demonstrator of anatomy at St. Thomas's Hospital, and Surgeon to the London infirmary for curing diseases of the eye. This gentleman's extensive sphere of observation has furnished him with opportunities of tracing the disease through all its various stages, and also of examining the corresponding state and appearances of the parts after death.

life. People advanced in years are not, however, exempt from it, as I have myself witnessed in more than one instance.

The extension of this disease follows nearly the course of the optic nerve, towards that part of the brain from which it originates ; so that there is no possibility of an operation proving successful, unless it be performed at an early period, and while the parts exterior to the cavity of the cranium are alone affected. This is a circumstance which cannot, however, be determined with absolute precision ; and the greatest circumspection, therefore, will be necessary, in speaking of the probable event of any operation undertaken for the removal of the diseased part.

SECTION VI.

OF CANCER OF THE TONGUE.

THIS is a complaint, towards which, the attention of the profession has of late years been directed in a more particular manner, than at any former period; but, notwithstanding this our knowledge of its history will be found to be still extremely imperfect and defective.

Like cutaneous cancer, it seems to admit of a certain degree of variability in its appearance; which, however, is most commonly that of a small, hard tumour, situated on the upper surface of the tongue, and at no great distance from its anterior extremity. This tumour usually possesses a very firm connexion with the subjacent parts; and, before arriving at a state of ulceration, it is not unusual to see it attain a size equal, at least, to that of a common hazel nut. Another form, under which this

disease sometimes shews itself at an early period, is that of a little discoloured pimple, having a disposition to bleed very freely from the slightest apparent causes : but there is, likewise, a third case, where carcinomatous ulceration suddenly breaks out upon the tongue, without the part having previously suffered any morbid change of structure, or presented any unnatural appearance, sufficient to attract notice.

The pain attendant on this disease in its different stages, though varying in degree, is yet always of that peculiar, darting kind, which belongs to cancer. When first complained of, it is only slight, and partial ; but gradually increasing in severity as the disease advances, it will, in time, extend so as to be felt both about the fauces and base of the skull.

This disease may continue a long time, even in an ulcerated state, without the patient's general health seeming to suffer materially from it. The entire destruction of a great portion of the tongue will sometimes be produced by

carcinomatous, ulceration before death takes place from this disease.

Cancer of the tongue appears to have been occasionally noticed in young subjects, under the age of puberty ; but it is much more frequently met with in those who are pretty far advanced in years.

SECTION VII.

DESCRIPTION OF THE SCIRRHUS STRUCTURE.

AFTER all that has been here said on the history of cancer, it would still be left very imperfect, if there were not to be subjoined a description of the internal structure, and appearance, of the parts thus affected. For this purpose, I cannot, perhaps, do better, than by quoting the following passage from Mr. Home.

Speaking of scirrhus of the breast, he says, “When a section is made of such a tumour, in an early stage, where the structure is seen to advantage, which is by no means always the case, it puts on the following appearance. The centre is more compact, harder to the feel, and has a more uniform texture than the rest of the tumour, and is nearly of the consistence of cartilage. This middle part does not exceed the size of a silver penny, and from this, in every direction, like rays, are seen ligamentous

bands of a white colour, and very narrow, looking, in the section, like so many extremely irregular lines passing to the circumference of the tumour, which is blended with the substance of the surrounding gland. In the interstices between these bands, the substance is different, and becomes less compact towards the outer edge. On a more minute examination, transverse ligamentous bands, of a fainter appearance, form a kind of network, in the meshes of which the new-formed substance is enclosed.”

“In a further advanced stage of the tumour, the whole of the diseased parts has a more uniform structure: no central point can be distinguished: the external edge is more defined and distinct from the surrounding gland; and the ligamentous bands, in different directions, are very apparent, but do not follow any course that can be traced*.”

These observations may abundantly suffice to enable any one to distinguish between the

* Vide Home's Observation on Cancer, page 157

truly scirrhous change of structure, and every other with which it might be liable to be confounded. Mr. Home's description of it corresponds exactly, in sense, with that which has been given by Dr. Baillie; but, in point of language, is rather more full and explicit.

No regular distinction of structure can be made in parts affected with carcinomatous ulceration. It is worth while, however, to know, that, just before this process begins exteriorly, there will sometimes be found one or more irregular cavities, placed within the substance of the scirrhous tumour. These cavities contain a fluid matter, of variable appearance, and bear about them unequivocal marks of having been the product of ulcerative absorption.

CHAP. III.

THEORY OF CANCER.

WITHOUT entering into a formal discussion, respecting the nature and causes of cancer, with both of which we are, at present, so very imperfectly acquainted, it is conceived that it will be better, at this time, to restrict ourselves to the following inquiry: how far is cancer, at any time, or under any circumstances, to be regarded as a local or as a constitutional disease? This question will be found to involve the consideration of several others, which, though of a subordinate nature, are yet of sufficient importance to give them a claim upon our attention; and will accordingly be taken notice of in their proper place.

With respect to the locality of cancer, it is a subject, of which, from attentively considering the phænomena of the disease, I have been led to take a somewhat different view

from either of those, in which it has hitherto been usually regarded. So great, indeed, is the diversity of sentiment, which has prevailed upon this question, that while one party has been contending for a general primary contamination of the circulating fluids, the other has, with at least equal plausibility, supported the idea of its being a disease of purely local origin.

These widely opposite opinions have given rise to so much controversy between their respective advocates, that it may yet, perhaps, be too soon to expect that they will be satisfactorily adjusted ; but if, in what relates to cancer, I can only succeed in reconciling some of the prevailing contrarieties of opinion and practice, my labour, [§] it is hoped, may not prove altogether fruitless.

If cancer then be not, strictly a local disease, there must exist in the constitution a predisposition towards it : and that this is actually the case, seems reasonable to be inferred, from observing it to attack different parts of the body,

at one and at the same time. It cannot be urged, in opposition to this, that such parts may have been equally exposed to be affected by external or accidental causes ; because these same causes, admitting their agency, would at most, in other constitutions, only have given rise to simple inflammation, and its consequences.

Cases of cancer are not very unfrequent, where the disease appears simultaneously, or nearly so, in both breasts ; neither is it at all uncommon to find the uterus and one breast affected at the same period of time.

These are circumstances, which have been entirely overlooked, or, at least, unnoticed, by those who contend for the strict locality of cancer ; but as matters of fact, capable of being verified by almost daily observation, it is absolutely required that an explanation of them should be attempted ; and this can be done in no other way, than by allowing a general predisposition to the disease.

It is very far from my intention to insinuate, as some have done, that this predisposition consists in a vitiated state of the animal fluids. Of the nature of any particular predisposition to disease, we are in a state of the most complete ignorance, and probably must ever remain so. Instead, therefore, of throwing away time upon an abstract question of this sort, our aim ought rather to be directed towards acquiring a knowledge of those circumstances, which tend to beget the cancerous predisposition; and of the effects to be expected from it, when once established. This is an object, the attainment of which does not appear to lie so far beyond our reach, and, when accomplished, would be likely to furnish us with many useful deductions of a practical nature.

Predisposition to disease may be of two kinds; either hereditary, or acquired. In using the term acquired predisposition, I only mean to express a simple matter of fact, viz. that what are called hereditary diseases may suddenly appear in a family, where, after the most careful research, no traces whatever of

their previous existence can be discovered. Now, in this case, we must either allow that a predisposition is first acquired, or that the accidental causes have been applied so powerfully, as to excite the disease in a constitution otherwise sound. Supposing, however, that the disease be at first excited in this casual manner ; yet the person, who is the subject of it, will afterwards be as fully capable of transmitting the predisposition to his descendants, as one who shall have inherited it from a long train of ancestors.

In what has been now said, I have more particularly had in view the two well known diseases of gout and scrofula.—These may, without any great impropriety of language, be called constitutional diseases ; and yet, for the most part, there is reason to consider their effects as being, at first, of a local nature.

It is a predisposition then, analogous to what here takes place, for which I am disposed to contend in the case before us.—Whether or not the predisposition to cancer be likewise

hereditary, is a further question to be determined by future investigation.

From the frequent occurrence of cancerous affections in different individuals of the same family, and especially in the female line, may be deduced one strong argument in confirmation of their hereditary nature. This opinion has, likewise, been further strengthened, by a reference to the bills of mortality ; from which it appears that the proportional number of deaths from cancer, in a given time, has, of late years, been on the increase.

The predisposition to cancer may doubtless, as in other cases, be acquired *de novo* : but we have yet to learn the particular circumstances which contribute, in a greater or less degree, towards its production. Climate would indeed, in this respect, appear to have more influence, than any other with which we are acquainted. In the colder, northerly regions, the disease is not only more frequent than in this country, but seems likewise to be more untractable in its nature ; while again, in the southern parts of

Europe, it is seldom attended with any considerable danger to life.

In tropical climates, it is said, by Dr Adams, that cancer is scarcely ever known to occur. Speaking of Madeira, the place of his residence, he says, "In this country, though most of those cases have been exhibited to me as a stranger, yet I have only seen two in an occult, and one in an ulcerated state. They were all of above twenty years standing, and rarely attended with pain.*"

* The outline of the following case (for which the Author is indebted to Mr. Astley Cooper) would incline us to the belief, that climate is not sufficient to arrest the progress of the disease after it has once taken place.

A lady, with a scirrhus tumour in the breast, went from this country to Trinidad. During her residence in that Island, the disease, however, evidently increased, and she was therefore prevailed upon to submit to the operation. The disease afterwards returned. The lady came back to England, and is now dying from its ravages.

QUERY.—Though a warm climate may not be sufficient to arrest the progress of the disease, under these circumstances, yet will it not retard it?

To return again, after this short digression, to the subject of predisposition. There is no other possible way of accounting for the origin of what are called hereditary diseases, except by admitting that the predisposition to them may be accidentally acquired. Illustrative of the truth of this principle, the disease in question furnishes us with numerous examples.

The analogy which there exists between scrofula and cancer, considered as hereditary diseases, is certainly, in many points, very striking. The attendant phænomena are usually, on their first appearance, confined to some one particular part of the body ; but yet there a few cases of exception, in which they are seen to appear in various parts, and at almost the same instant of time. Both diseases shew themselves under the form of a morbid process, a good deal analogous to inflammation, and most frequently about a determinate period of life. Scrofula is chiefly a disease of early life ; but still it is observed, that persons considerably advanced in years are not altogether exempt from it. The very reverse of this, so far as

concerns the period of life, is strictly applicable to cancer.

In pointing out these general features of resemblance between scrofula and cancer, it has been from taking a survey of them, as diseases possessing the common character of being hereditary, and not from the belief that they have any nearer affinity or connexion with each other. Such a notion, indeed, though it still has its abettors, hardly requires to be seriously disclaimed; for, if examined with but a very moderate share of attention, it must appear to be quite irreconcilable with what we know of the history of these diseases.

Before quitting this subject, I wish it further to be understood, that though the terms scirrhous and carcinomatous have been employed, for the purpose of marking the different stages of cancer more accurately; yet, as the disease occurs in glandular parts, it cannot but be considered as essentially and individually the same, from beginning to end. This observation, however, does not admit of being extended,

with so great a degree of latitude, to those affections, which come under the head of cutaneous cancer.

As to the occasional causes of cancer, these would appear to comprehend all the different varieties of local irritation. Such a state of parts, if induced by the agency of something external to the body, is not likely to be overlooked; but when connected, as is often the case, with some hidden change taking place within the animal machine, it cannot then be so palpably obvious, and is, therefore, very liable to escape notice. Among other causes of the description to which I now allude, may be mentioned præternaturally increased determinations of blood to particular parts; as is very well exemplified in the various sympathetic affections of the breasts and uterus.

Suppose, then, that an occasional cause be applied in a constitution predisposed to cancer, and at that particular period of life, when the disease is most apt to shew itself; the natural consequence will, of course, be the production

of a scirrhus tumour. This tumour, then, according to the view which has been here taken of the subject, would at first deserve to be considered very nearly the same as a local disease. In this respect it would be placed pretty much upon an equality with a single enlarged scrofulous gland. The principal circumstances, which afterwards alter the mutual relation of these supposed cases to each other, are the following: The scrofulous affection always remains confined to the immediate vicinity of the part in which it first originated; but in the cancerous one there is manifested an early tendency to extend, by a peculiar process of contamination, to a distance.

Parts that have once undergone the scirrhus change of structure, whether in a primary, or only a secondary, way, are alike capable of extending the disease, agreeably to certain fixed laws which are observed in its communication.

Let us now then inquire, by what means it is that a scirrhus tumour contaminates not

only those parts which are immediately contiguous to it, but likewise others, as the absorbent glands, whose situation is so much more remote.

Of the manner in which the former of these effects takes place, we can only say, that it seems to be produced by a kind of assimilating process, something in the same way that inflammation beginning in a point is—afterwards, by continuity of the surrounding parts, extended to a distance. Thus it is that cancer of the breast comes at length to affect the integuments, the pectoral muscle, and even, upon some rare occasions, the cartilages or periosteum of the ribs.

Through the intervention of the lymphatic vessels, cancer is, however, propagated to a much greater distance, than what happens even in the last mentioned case ; but is by a process which is very far from admitting of a ready explanation.

It has hitherto usually been supposed that a peculiar, or rather specific kind of matter, was generated in all such parts as had undergone the scirrhus change of structure: that this matter, so produced, was taken up by the lymphatic vessels, and being conveyed forwards, thus proved the immediate cause of enlargement and induration in the glands connected with them. It has, likewise, further been contended, by those who maintain the strict locality of cancer, that this supposed matter entering the circulating system through the medium of the absorbents, produced, at length, a taint of the whole habit.

In this manner, unsatisfactory as it must appear, have they endeavoured to explain the circumstance of one cancerous affection supervening to another, situate, perhaps, in a very distant part of the body: but, let it be asked, will this also account for the simultaneous appearance of two or more cancerous affections in the same person? Most assuredly it will not; and, therefore, a sufficient reason is af-

forded why we should reject the principle upon which such an explanation has been founded.

It is at present regarded as very doubtful, whether any matter of a specific nature be generated either in the scirrhus or even carcinomatous stage of cancer. The small number of facts which have been adduced in proof of the existence of a specific cancerous matter, are at best of a very dubious nature, if they do not rather tend to strengthen the contrary opinion. Of these, however, I do not here feel it incumbent upon me to take any further notice : for, after the very ample manner in which their futility has been exposed by Mr. Pearson,* it does not seem at all probable that they will ever again be dragged forwards before the public with the same intention as formerly.

That there is no well authenticated case upon record of infection being communicated from patients labouring under this disease to their

* Vide Pearson's Observations on Cancerous Complaints, page 23 and seq.

attendants, is of itself, considering the unavoidable causes of exposure to which such people must necessarily be liable, a very strong indirect proof of the non-existence of specific cancerous matter. In the experiments, however, of Mr. Nooth, we have all the direct evidence that could reasonably be desired upon the subject. Speaking of the fluid found in the cysts of scirrhus structure, he says, "Being anxious to know what effects this matter would produce, if inserted by inoculation into the arm of a healthy person (but not being entitled to make that experiment on any human being except myself) I conveyed a minute portion of it into a small incision on my arm. Two hours afterwards I felt the part uneasy with a strong pulsation. On the following day it was much more uneasy, and much more inflammation appeared than generally attends so small a wound inflicted by a sharp instrument. On the third it remained nearly in the same state. On the fourth the wound became easier, and the inflammation and pulsation began to subside. A few days afterwards a large dry scab was formed, which I removed, and found the

sore perfectly healed. Not choosing to rely on a single experiment as a sufficient proof that a cancerous predisposition could not be conveyed into the habit, I repeatedly inoculated myself from the year 1777, without ever producing any effects dissimilar to those in the first experiment.”*

Dr. Nisbit has, likewise, given his evidence precisely to the same purpose with Mr. Nooth; but upon this subject it does not appear necessary to introduce, at their full length, any further authorities.

The fluid contained within the cysts of scirrhous structure, as well as that which is discharged from the surface of carcinomatous ulcers, must be allowed to be sometimes acrimonious, and possessed of an irritating quality: but more than this cannot, it is presumed, be in any way established.

* Vide Nooth's Observations on the Treatment of Scirrhous Tumours of the Breast, page 13 of the 2nd edition, 1806.

If then the matter of a carcinomatous sore do not possess a specific quality, how, it will be said, does it come to pass, that the disease is propagated along the absorbents to their glands, and with so little apparent injury to the intermediate parts? This process is truly difficult to be explained; for here the absorbents, instead of performing their natural and healthy function, only seem to serve the purpose of conductors, or that of conveying a specific irritation to the neighbouring glands. In the execution of this office, the vessels themselves become obliterated, and afterwards have the appearance only of so many solid cords.

The principal absorbent vessels of the part being in this way, as it were, annihilated, it is easy to explain the reason why we are never able to lessen the absolute size of a truly scirrhus tumour. From the circumstance that the equilibrium is destroyed between the actions of the arteries and lymphatics, which are naturally proportioned to each other, we may likewise account for the exuberance of

granulations. These, from the very rapid manner in which they are formed, possess so small a share of vitality, that, not having sufficient powers to support themselves for any length of time together, they every now and then slough away, and are again hastily reproduced.

In order to elucidate the writer's ideas upon this subject, and to render them as intelligible as possible to his readers, it will, perhaps, be necessary to speak more at length on the manner in which it is conceived that cancer is extended to distant parts by means of the absorbents.

We often see a temporary enlargement of the glands of the groin, arising from a very slight scratch or excoriation on any part of the lower extremity. This, then, is understood to be the effect of simple irritation. It is attended with no such inflammation of the absorbent vessels which proceed from the injured part, as is known to happen in many cases of punctured wounds ; and, therefore, certain-

ly deserves to be considered as an effect distinct from inflammation. To exemplify more particularly what is meant by a specific irritation, propagated along the absorbents, it will only be necessary to refer to the history of that disease, which has been described by Mr. Abernethy, under the title of Medullary Sarcoma. In this case, like as in cancer, the absorbent glands are found to become affected with specifically the same change of structure, as the part originally diseased : but what must appear most singular is, that it is not merely those glands which are placed in the regular progressive course of absorption, that undergo this change, but likewise such as are placed even in a retrograde direction. The truth of this fact has been ascertained by Mr. Abernethy, in such a manner as scarcely to admit of a possibility of doubt ; * and if the Author is not much mistaken, the very same circumstance takes place in certain cases of cancer.

* Vide Abernethy's Surgical Observations, pt. I. p. 65.

The absorbent vessels proceeding from a part affected with cancer, after having undergone this peculiar change of structure, appear exactly like so many cords of a firm white substance, interspersed through the surrounding soft parts. These were formerly described as constituting the roots of the cancer, by which it was supposed to grow upon the body, in the same way as a parasitical plant does upon a larger vegetable. The bare mention, however, of these antiquated speculations, must be sufficient to shew their absurdity.

The theory of cancer, which has now been offered, is for the most part, founded upon acknowledged matters of fact. It serves, likewise, to explain many of the phenomena of the disease, in, at least, a more consistent manner than has been done by any previous attempt for the purpose; and, lastly, points out to us that line of practice which the experience of every practitioner would, I am firmly persuaded, incline him to approve and adopt in his own case.

CHAP. IV.

OF THE TREATMENT OF CANCER.

IT would be a very tedious, and, at the same time, an unprofitable task, to attempt to offer a detailed account of the various articles of the *Materia Medica*, that have been given internally with a view to the cure of cancer. Let it, therefore, suffice to observe, that there is not a single medicine of any general efficacy, but what has at some time or other been exhibited, under every variety, both of form and circumstances. The collective experience of past ages, however, serves only to shew, that, so far as respects a cure, all such means are equally devoid of efficacy.

The transient reputation which some particular medicines have occasionally acquired, in the cure of cancer, has been found to rest, entirely, on inaccurate observation. Scrofulous,

and other diseases, bearing only a very remote resemblance to cancer, have even within these few years been confounded with it; and hence it is difficult to explain, in what manner the curative powers of certain medicines have been so very erroneously estimated.

Arsenic, under one form or other, is still frequently prescribed in cancer; and this, even by men for whose abilities and integrity the profession at large entertains, and not undeservedly, a high respect. If, however, it cannot be shewn to do some permanent good, it certainly must do harm; for its continued use, by deteriorating the general health of the patient, will ultimately tend to accelerate the progress of the disease.—A placebo may, indeed, often be required; but surely the materials of which it is composed ought, at least, to be perfectly innocent in their nature.

I shall now then proceed briefly to notice those means of cure which have been made use of in cancerous affections, externally.

The impracticability of reducing the absolute size of a truly scirrhus tumour is a circumstance, which has already been noticed in a former part of the Essay. All the various applications, therefore, which have been made use of to parts affected with cancer, have been intended to fulfil nearly the same indications of cure ; viz. to destroy the living powers of the morbid growth, and to effect its consequent separation from the sound and living parts which lie immediately adjacent.

The question accordingly comes to this issue, whether any of the articles, which have been employed for the above purpose, possess a power capable of accomplishing such intentions ?

It would not be right to deny, that, under certain circumstances, they may possess such a power ; but, if we reflect seriously on the great inconvenience, danger, and uncertainty, which necessarily attend their operation, they will, it is conceived, deservedly appear to be

held cheap in the general estimation of the profession.

To place this subject in a more familiar point of view, let us, by way of illustration, suppose an application of this kind to be made to a scirrhus breast. Can there, I would ask, be any one credulous enough to suppose that the surgeon is endued with a discretionary power, which can be exercised over the action of such a substance? I have not called it by the name of caustic, lest a verbal objection should be raised against the use of the term. Is it for a moment to be supposed, that an application of this sort can be so determined in its operation, as completely to destroy the morbid parts, without fear of injury to others, where its effects might not only prove highly prejudicial, but even dangerous to life? I should, without the smallest hesitation, answer both these questions decidedly in the negative. Who is there, I would further ask, that could pretend to say, with any certainty, when the whole of a scirrhus tumour had been removed by these means?

These, however, are not the only objections to the use of such local applications. Their operation is attended, for the most part, with excessive pain, and a high degree of inflammation; besides which, in order to ensure the very precarious prospect of success, which their use affords, it often becomes necessary to repeat them several times. I shall not at present say any thing about the difficulty of healing an extensive sore, formed in this way; because the great objection to all similar means of cure is derived from the long continued inflammation with which they are necessarily attended. This inflammation tends very considerably to hasten the further extension of the disease, through the medium of the lymphatic vessels; and so to put it, in a little time, altogether beyond the reach of art.

The only other method, by which it has been attempted to effect a permanent cure, consists in the excision of the diseased parts: and, though we have but too often to lament its failure when performed late, yet, even under the most unfavourable circumstances, it would

not, I conceive, be difficult to shew its advantages over every other proposed means of relief.

If the parts, thus morbidly affected, require to be removed, the superiority of the knife over every other means for effecting it must be evident, to any one at all acquainted with the first principles of surgery. In this way, we are enabled to ascertain, at least, the sensible extent of the morbid change of structure which has taken place, and, as far as is practicable, to proportion our means to it. The quantity of substance to be removed can be regulated with perfect safety, at the discretion of the operator ; besides which, another material advantage arises from its being generally in his power to unite the sides of the wound by the first intention. By this means the inflammation attendant on a tedious suppurating sore is in a great measure avoided, than which nothing would be more likely to occasion a return of the disease.

Having then determined in favour of the operation by excision, supposing it to be prac-

ticable, there will yet remain one more question to be considered.

At what period may the removal of the diseased parts take place, with the greatest probability of eventual success from the operation ?

In all cases that admit of an operation being performed, the author's experience would lead him to recommend its being done, as 'soon' as ever there should be reason to suspect the nature of the disease. The concurring testimony of the profession at large, to which he will soon have occasion to appeal, will be found to be in strict conformity with this advice. Mr. Pearson has, however, laboured to promulgate a very opposite opinion, upon which, as it appears to be founded in error, and to lead to a most pernicious practice, I shall take the liberty to make a short commentary.

Mr. Pearson's sentiments upon this subject are conveyed in the following words: "When the nature of the complaint is clearly and evidently cancerous, the excision of the altered

part is generally recommended, and, under certain limitations, it is recommended with great propriety; but the precise period at which the operation ought to be performed is not quite so easily decided upon. The argument for an early excision, founded upon the greater comparative facility with which a small tumour can be extirpated than a large one, is more specious than solid, for a tumour of one inch in diameter will require as large an incision as a tumour of twice that magnitude. The most weighty reason in favour of an early operation is founded on a probability of danger that the disease may spread, and widely contaminate the surrounding parts. This argument has some foundation in truth, but is still, perhaps, rather popular, than learned. Every man of reading knows that a similar mode of reasoning was formerly employed in favour of the early removal of a mortified limb, but more accurate observations have at length demonstrated the propriety of deferring amputation, till there be a line of separation between the dead parts and the living. I have already shewn, that when even an incipient scirrhus is

removed, no surgeon can be certain that he has removed the whole of the altered parts from that breast : consequently he is not sure that his patient is secured from a relapse of the disease.”* In the last sentence, Mr. Pearson seems to allude to a passage which occurs in the earlier part of his work, and is as follows. “The early extirpation of a cancer confers no peculiar security against the return of the complaint : on the contrary, if the removal of the morbid part were equally complete in two patients, one of whom had been afflicted seven months, and the other seven years, with a cancer, I should esteem the latter patient in less danger of a relapse than the former. My reason for an opinion, which to some people may appear singular, is this. That when the breast, for example, is affected by the cancer, distant parts of that gland may become the seat of the morbid alteration about the same period. These several diseased portions may not advance with an equal celerity, but while

* Vide Pearson's Practical Observations on Cancerous Complaints, page 49.

one portion has acquired a considerable bulk, the other altered parts may be scarcely objects of attention. Under such circumstances the more obviously morbid parts may be removed, but the disease, being only in progression, no man can be certain, without removing the whole breast, that he has not left some diseased fibres. If, however, the disease shall continue without increasing during several years, one may in general conclude that its boundaries are more accurately defined.*''

In the first place, then, let us consider the particular tendency or bearing of Mr. Pearson's observations, which have been here quoted at such length. From a survey of the reasoning which he employs, in order to prove that the arguments in favour of early extirpation are unfounded, it might appear that he means to dissuade us from ever attempting an early operation : but that this is not exactly his meaning is pretty evident from another

* Vide Pearson's Practical Observations on Cancerous Complaints, page 31.

passage, wherein he says, that excision is generally recommended, at an early period, and under certain limitations, with great propriety. It is only to be regretted, that Mr. Pearson should have omitted to mention what he was desirous should be understood by these limitations ; because the position, as it now stands, is quite too general to admit of refutation.

Though we cannot, therefore, see the direct inferences which Mr. Pearson wishes us to draw from this obscure kind of reasoning, yet, if we may judge from the pains which he has bestowed, to prove that the patient derives no additional security from an early operation, he does not appear to be an advocate for this practice. It will not, however, it is conceived, be very difficult to show that some, at least, of the arguments, which he has employed for the above purpose, are themselves rather "specious than solid."

In comparing the operation for the removal of a scirrhus breast with that of amputating a mortified limb, before the line of separation

has taken place between the dead and living parts, Mr. Pearson seems to have forgotten that the two affections differ very essentially in their nature. In the former case, the powers of the constitution are very generally adequate to the separation of the diseased from the sound parts; but, in the example of cancer, the efforts of nature are never seen to be directed to any salutary purpose. It is, on the contrary, a disease which goes on progressively, although not with an uniform rapidity, from bad to worse. This being the case, what can we have to expect from delay? Nothing, most assuredly, but an increase of risk and danger to the patient.

I do not feel inclined to dispute the accuracy of Mr. Pearson's observation, that, of two patients, in both of whom the removal of the scirrhus tumour shall have been equally complete, the one case of seven months, the other of seven years duration, the latter of these will be in less danger of a relapse than the former. This, as a general principle, will be found to hold almost uniformly true; but it

is a fact, which seems to admit of a more rational explanation in the following manner.

Predisposition to disease may, it is well known, be more or less strong in different persons. Of this we have a regular graduated measure in the slighter or more powerful causes required to give activity to it, and so to constitute actual diseases. In like manner, according to the quicker or slower progress which it afterwards makes, the same disease is said to vary in its degree of virulence, in different constitutions. The circumstance here noticed, if properly applied, will, in a great measure, if not entirely, remove the difficulty which seems to have presented itself to Mr. Pearson. Such an explanation indeed, as he has produced, would have proceeded with much more consistency from any one, who had adopted the idea of "natural separation" before alluded to.

But let us now consider the fact mentioned by Mr. Pearson, as it affects our practice. What would have been the probable conse-

quence, if this patient, who is supposed to have laboured under the disease for seven years, had submitted to the operation at an earlier period ? She surely would not have been more liable to a relapse at that time, than at any future one ; but would have been freed from so many years both of mental anxiety and corporal suffering.

In, perhaps, nineteen cases out of twenty, if the operation were to be delayed for seven years, the patient would long before that time be placed in a condition irretrievable by any of the resources of art.

It is then on this single ground, of the great additional security which an early operation gives to the patient, that I am disposed to maintain its preference. In matters of this kind, however, an appeal to facts is of infinitely more weight and importance, than even the most plausible reasoning that can be employed ; and it is, therefore, with no small satisfaction that I have it in my power to refer the reader

to the detailed cases of Messrs. Fearon, Nooth, and Home, for more circumstantial evidence.

One principal reason why the operation of excision has been brought into disrepute is, that surgeons have ventured to perform it under circumstances, where, in reality, there could not be the faintest prospect of eventual success. Some men, indeed, there are, who recommend the operation as a palliative, and just to afford the patient temporary relief ; but, if this can ever be thought adviseable, the intention of the surgeon ought, at least, previously to be explained, so as to be perfectly understood.

It may here, perhaps, be useful to introduce a general connected view of the comparative degrees of success of different men of eminence in the profession, who have made public the results of their practice. Their various proportional shares of successful cases is principally, it is conceived, to be accounted for, by the greater or less degree of caution made use of in selecting them.

Dr. Monro, primus, says, that of sixty patients, on whom he had seen the operation performed, not four remained free from the disease at the end of two years*.

* Vide 5th Vol. Edin. Med. Essays, Article 32.

This glaring want of success, in Dr. Monro's cases, seems to require some explanation.—An attempt has been made to account for it, by supposing, that from this Gentleman's connexion with the University of Edinburgh, and from the very high reputation which he there enjoyed as a practical surgeon, many of the cases of cancer, which it would fall to his lot to treat, must have been of the worst kind. This however does not appear to afford a satisfactory explanation of the fact, and therefore the Author thinks it right to subjoin the following considerations:—From a full and well written MS, of Dr. Monro's surgical lectures, in the Author's possession, it appears as if the Dr. had recommended the operation too indiscriminately, and without prescribing the necessary limitations.—Besides this, it must be well known that, in Dr. Monro's time, the wound, instead of being united by the first intention, was usually allowed to heal (if it would heal at all) by the tedious process of granulation. This, however, was not all; for Dr. Monro had an idea, that, by keeping up a discharge from the breast, the return of the disease would be prevented: and with this view he directs, that when the sore is reduced to about the size of the palm of the hand, it shall be kept open as an issue for the remainder of life. To promote the discharge from it, Dr. Monro advises it to be occasionally dressed with the common caustic, and as much black soap as will bring it to the consistence of an ointment. Now, if there be any truth in the view which has been given of the nature and cau-

Mr. Hill, a surgeon of Dumfries, in Scotland, states, that of the first forty-five patients on whom he operated, only one case proved unsuccessful. In three more patients, the cancer broke out again in different places; and a fifth was threatened with some tumours, at a distance from the original cancer. All the rest (he says) continued sound as long as they lived, or are so to this day. One lived above thirty years, and fifteen are still alive, though the last was cured in March, 1761. The date of Mr. Hill's publication is 1772. Of the next thirty-three patients on whom he operated, one lived only four months; and in five more the cancers broke out afresh, after being once healed*. It appears, therefore, that not more than one in seven of Mr. Hill's patients relapsed.

ses of cancer in the preceding pages, the author will leave it to his readers to judge whether any other result could have been expected from Dr. Monro's practice, than what actually took place.

* Vide Cases in Surgery, by James Hill, Surgeon in Dumfries, chap. I. page 3 and 4.

Mr. Nooth, at page 37 of his late valuable work, entitled "Observations on the treatment of Scirrhus Tumours of the Breast," expresses himself as follows : " My own experience, which has been extensive during thirty years practice, justifies me in saying that a small fraction only, not more than one in thirty patients, ever had any return of the disease, in any shape whatever, after they had submitted to the operation. In five cases only from a hundred and fortysix patients have I been unsuccessful."

Mr. Fearon's experience seems to have been nearly, but not quite so favourable, as that of Mr. Nooth.*

Mr. Home has, in his late publication,† presented us with a detail of twenty-two cases of cancer of the breast. Of this number eight were allowed to run their course unmolested. Of the remaining seventeen, that were operated on, only five proved completely successful.

* Vide Fearon's Treatise on Cancers, &c. 3d edition, 1790.

† Vide Home's Observations on Cancer, &c. 1805.

There were, indeed, two more, of which the event was unknown ; but as Mr. Home mentions of them that the prognosis was unfavourable, I have included them among his other unsuccessful cases.

The Author has purposely avoided introducing any detail of the cases which have fallen under his own particular observation, as he did not conceive that they were calculated to prove any thing more than what is met with in the ordinary course of practice ; and in point of numbers, could not be put in competition with the extensive scale of facts already brought forward.

After, however, that the operation for cancer has been performed with the greatest care, and under, apparently, the most favourable circumstances, it must still be admitted that the disease will, unhappily, sometimes return. This seems to take place in one of two different ways, deducible from what has already been offered concerning the nature of the disease. It is well known, that if ever so small a portion

of the altered structure be left behind, it will certainly go on to contaminate other parts, and the patient will not be at all benefitted by the operation. This circumstance is especially liable to happen in those cases where the disease has previously extended, so as to affect the lymphatic glands. From the view, however, which has been here taken of cancer, it appears that there is yet another mode in which the disease may occasionally return. Supposing the whole of the affected parts to have been removed, it is still to be kept in mind, that the constitutional predisposition remains the same as before the operation, and the irritation occasioned by the wound (unless speedily united by the first intention) will be liable to act as an exciting cause, and so to reproduce the disease. One great object, therefore, in the after-treatment of patients who have been operated on for cancer, should be to keep down inflammation, and unite the wound as speedily as possible. In each of the two different ways which have been above alluded to may the success of an operation be defeated; but if we are at liberty to judge from the past experience of

surgeons, it is much more frequently from the former cause than the latter.

It now then only remains, that I should describe the manner of performing the principal operations that are required for the extirpation of cancer; and finally conclude, by taking notice of those means, which, upon trial, have been found the best calculated for palliating symptoms, when all hopes of cure have been abandoned.

SECTION I.

OF THE OPERATION FOR CANCER OF THE BREAST.

THE patient is here to be placed either in a sitting or recumbent posture, with the arm elevated, so as to form a right angle with the body : and in order to put the parts more upon the stretch, it should at the same time be carried a little backwards. In this situation she is to be properly secured by assistants. The surgeon, having first carefully examined the extent of disease, is then to make two curvilinear incisions through the integuments, with a common scalpel. These incisions, which ought, if possible, to be made in a direction agreeably to the course of the fibres of the pectoral muscle, are intended to include between them the nipple, and as much of the common integuments as it may be judged proper to remove. The next step in the operation is to dissect out the indurated part ; and along with

this, in every case of true scirrhus, I would recommend that the whole glandular substance of the breast be likewise taken away. To this it may, perhaps, be objected, that it would be adding greatly to the severity of the operation ; but, even if it could be proved to occasion a temporary aggravation of the patient's sufferings (which has not yet been done) still it is nothing which admits of comparison with the security that is thus afforded against a relapse. As to appearances, the operation is generally performed at a period of life when these are not much studied, and when the breast, even if it were allowed to remain, has already ceased to perform its proper functions. The whole of the breast is, therefore, recommended to be detached, along with the tumour contained in its substance,* and this will be best effected in a direction towards the axilla. If there be one or

* The Author feels great satisfaction to have it in his power to state, that this measure has for some years past been adopted by Mr. Patch, senior surgeon to the Exeter and Devon Hospital, who speaks of it in terms of the most decided approbation. It appears also to have been the practice of Mr. Patch's late colleague, John Sheldon, Esq. F.R.S. and professor of anatomy to the Royal Academy of Arts in London.

more enlarged lymphatic glands, these also are to be cautiously removed. Supposing that they are deep seated, it is an useful precaution, after detaching them as much as possible with the fingers, to pass a ligature on that side where they receive their vessels, before finally separating them with the knife. In this way, hæmorrhages, which might otherwise prove very troublesome, are to be avoided. If, during the operation, any artery is divided, that happens to bleed freely, it will be prudent, unless in the glandular part of the breast, to secure it before proceeding further. In ordinary cases, however, there is no necessity for interrupting the operation for this purpose. After all the diseased parts have been removed, it will then be the proper time for securing any such vessels as may appear of sufficient magnitude to require a ligature. The blood is then to be cleared from the wound, and its lips brought into apposition, or as nearly so as possible, by means of adhesive plaister. To effect this more accurately, some advantage will be derived from placing the parts in a relaxed position, bending the neck a little to one side, and bring-

ing the arm forwards. A compress is to be applied, so as to keep the sides of the cavity gently together, and over this a broad flannel roller, to support the whole. The patient is to be placed in bed, in such a position as to keep the parts relaxed, and afterwards treated as in the case of any simple wound.

Now, with respect to enlargement of the lymphatic glands, either in the neck or axilla, it may be observed, that, when the disease has arrived at this stage, the period is unfavourable for the performance of the operation. By attending to the circumstances before mentioned, it will generally be in our power to distinguish between the enlargement of these glands from scirrhus, and that which proceeds from other causes. If it should appear to arise from scirrhus, the operation ought not to be undertaken, without previously explaining every circumstance to the patient, or her friends, and at the same time offering a very guarded prognosis. In no case, indeed, ought the surgeon to make himself too confident of success :

for, if this be unattended to, he will every now and then be sure to encounter disappointment, and to render himself obnoxious to the reproaches of his patients.

SECTION II.

OF THE TREATMENT OF CANCER OF THE UTERUS.

HERE the disease presents itself in a part that does not admit of extirpation, and, therefore, all that can be done is to palliate symptoms, and to endeavour to protract life, as far as possible. The great object to be kept in view is to moderate and subdue inflammation, as upon this cause seems to depend the greater part of the painful symptoms. For this purpose it is right in the scirrhus stage of the disease to apply a number of leeches, every three or four days, to the groin, or some other part in the immediate vicinity. The anti-phlogistic regimen should be rigidly enforced. It will further be adviseable to detain the patient as much as possible in the horizontal posture, keeping up at the same time a state of constant purging by means of neutral salts, or some saline mineral water. With these

means it will be proper to conjoin the use of slightly astringent injections into the vagina; and frequent immersion of the lower part of the body in the warm slipper bath.

Pouteau, in his "*Melanges de Chirurgie*," has advised that the patient be kept on a regimen entirely aqueous; and Mr. Pearson has furnished us with the particulars of two cases in which this plan was followed with apparent advantage. There are very few women, however, who can be prevailed upon to submit to the restrictions which such a plan necessarily enjoins, in consequence of which it has not yet been tried on a sufficiently extensive scale to determine its real worth. In the carcinomatous stage of the disease, it will be necessary, in addition to the means which have been already recommended, to give some anodyne internally. For this purpose, opium, hyoscyamus, and conium maculatum have severally been used with good effect. The strength of the astringent injections will also require to be increased; and, in order to prevent excoriation from the acrimony of the

discharge, some simple ointment should be applied to the parts, over which it passes. The anodyne will in general be more effectual when exhibited under the form of clyster. Next to this, one of the most effectual means of mitigating the patient's sufferings will be found in the frequent use of the warm bath.

I should say that it is more than cruel to harrass a patient, in this situation, with the use of arsenic, or any other powerful medicine internally.

SECTION III.

EXTIRPATION OF THE TESTICLE.

THIS operation is not unfrequently required for other diseases, besides cancer. Some little variety obtains in the manner in which it is executed by different surgeons, but this will afterwards be noticed in its proper place.

If the whole of the cord be thickened and knotty, it would only be practising an unnecessary piece of severity upon the patient, to perform the operation: for, in such a case, the disease has extended into the abdomen, and will go on to prove fatal, in spite of all that we can do to the contrary. If, however, the cord be only partially affected, and that at its lower part, the operation may still be performed with a tolerable prospect of success.

The parts being shaved, and the patient properly placed upon a table, with his thighs drawn asunder, the surgeon is to begin his incision a little way above the abdominal ring, and extend it downwards to the bottom of the scrotum. This first incision is meant to expose the tunica vaginalis testis. The cord itself is next to be laid bare, and in doing this it is recommended to proceed cautiously, for it has more than once happened that a very small inguinal hernia has been discovered to be situated immediately beneath it.

It was formerly the practice, upon these occasions, to tie up the whole cord in a single ligature. By including the vas deferens in this way, it not only, however, gives rise to intolerable pain at the moment, but has, likewise, sometimes appeared to be the occasion of tetanic and other disagreeable nervous affection.

The arteries of the cord may be safely secured in one of two ways : either by applying a ligature to each vessel, singly, or by including the whole of the cord, with the exception

only of the vas deferens, in one common ligature. The former method is certainly preferable in cases where it does not become necessary to divide the cord very high up. The latter, however, is more easy of execution, and perhaps equally safe, provided the ligature can be drawn of such a degree of tightness, as completely to destroy the vitality of the parts which it includes. Should the cord, therefore, be at all thickened at the place where it is intended to be tied, it might usefully be divided into two or more portions, and each of these secured in the way above-mentioned. The testicle is now to be dissected out, and along with it ought to be removed any portion of integuments that may appear diseased.

Though it has really furnished matter of serious dispute whether the testicle ought to be removed before or after securing the spermatic vessels, yet I cannot help regarding it as a thing of total indifference, supposing the surgeon to be well assured of the nature of the disease for which he is about to operate.

The testicle, then, being removed, and such arteries secured as may bleed freely from among the cellular substance of the scrotum, the lips of the wound are to be brought together by means of stitches, over which a compress is to be laid and confined in its situation by the use of a proper bandage.

Adhesive plaister does not here prove of any particular service, unless it be just in the upper part of the wound. The after-treatment is so simple as not to require that any particular directions should be given concerning it. The great object to be kept in view, is to unite the wound as speedily as possible.

SECTION IV.

OF THE OPERATION FOR CUTANEOUS CANCER.

VARIOUS operations, consisting in pieces of simple dissection, are required for the removal of cutaneous cancer; but they are in general so little complicated as to preclude the necessity of description. As the success, however, of every operation for cancer depends so very greatly upon the freedom with which the surrounding parts are removed, it is a circumstance which cannot be too strongly or too frequently inculcated upon the mind of the operating surgeon. It is also right for him to be aware, that in these cases of cutaneous cancer, the operation will frequently admit of being performed, with entire success, long after ulceration has taken place. If, therefore, it be the same disease with that which happens in glandular parts it would at least appear to be under a less malignant form.

On the subject of amputation of the penis only a very few words will be necessary. The operation cannot be expected to succeed, if the inguinal glands shew marks of previous contamination, or if the disease should have extended under the arch of the pubis to the glands within the cavity of the pelvis. This latter circumstance can only be judged of from the appearance and feeling of the part.

Suppose then the operation determined upon, it is performed simply in the following manner. The skin of the penis being drawn forwards, as much as possible, and the body put upon the stretch, the surgeon may either remove it by making a circular incision through the integuments, and afterwards dividing the body, or all this may be done at once, by a single stroke of a larger knife. The latter method appears preferable where the amputation is not required to be done very near to the pubis. The pain is no more than momentary, and yet every useful purpose is as fully answered as could in any way be desired. If, however, it should be necessary to perform the operation very near

to the pubis, it would then, it is conceived, be better to make use of the scalpel; first dividing the corpora cavernosa, and leaving the penis connected by means of the corpus spongiosum, till such time as the arteries can be secured. Unless this precaution be attended to, the body of the penis is liable to retract quite into the perinæum, and it then gives a great deal of trouble before the hæmorrhage can be properly commanded. The arteries, which are generally three or four in number, are to be tied by means of the tenaculum, or forceps. Superficial dressings only are required, and over these a slight compress and T bandage. This bandage should be worn during the whole of the cure, as it in some degree suspends the testicles, without which they are liable to be attacked by sympathetic inflammation. It is never, perhaps, necessary or advisable to introduce a foreign body into the urethra, unless towards the end of the cure it should manifest a disposition to contract at the extremity, and then it can be easily removed by the use of a piece of bougie.

SECTION V.

OF THE REMOVAL OF THE EYE BALL.

Extirpation of the Eye, in the affection which has been described in a former part of this Essay, has not often been attended with success, in what regards the future security of the patient; but this may probably be accounted for by its having only been undertaken at an advanced period of the disease. It is worth while, however, to know that it is an operation not attended with that danger to life, which, from the particular situation of the organ, and the delicacy of its fabric, might, *a priori*, be supposed.

It is performed by simply dissecting out the ball of the eye, from the cavity of the orbit; the eyelids, unless diseased, are to be allowed to remain. After the eye has been removed, nothing more requires to be done than to fill

the orbit with dry lint ; and even this, as liable to produce some degree of irritation, may in many cases be dispensed with. No alarming hæmorrhage is likely to happen after this operation, because the arterial branches that are cut through, though, numerous, are yet inconsiderable in point of size. The cavity of the orbit is soon filled with granulations, and in the course of about three weeks or a month the patient is generally quite recovered from the effects of the operation.

SECTION VI.

OF THE OPERATION FOR CANCER OF THE TONGUE.

As to Cancer of the Tongue, it has of late been fashionable to attempt its removal by means of ligature, and a few cases have been related by Mr. Home, in which this practice was followed with complete success, so far at least as regarded the event of the operation. Later experience, however, has shewn that the disease is very liable to return after the use of the ligature; nor can this be at all wondered at by any one who has ever witnessed the degree of pain and inflammation with which its use is attended. It has, therefore, more lately been recommended to remove the disease by means of a cutting instrument, having previously introduced a ligature into the substance of the tongue, beyond the affected part, so as to be able to draw it forcibly out of the mouth.

In aiming at the prevention of this disease, in those constitutions where there may be reason to apprehend a tendency towards it, the greatest care should be taken to avoid the occasional causes. For this purpose abstemiousness in living will generally be proper to be insisted on; and, in order to obviate the bad effects arising from irregular determinations of blood, recourse should occasionally be had to such evacuating remedies as may appear best adapted to the particular case.

What has been said respecting the palliative treatment of cancer of the uterus, will apply, with a very little variation, to cancer as it occurs in other external parts. Its progress may be retarded in the scirrhus stage, by means of frequent topical bleedings, and by a careful abstinence from every thing that might accelerate the circulation, or determine it, in a more especial manner, to the affected part.

It will be highly proper to insist upon this treatment, while patients are hesitating about submitting to the operation.

When the disease has arrived at the carcinomatous stage, anodynes internally, the frequent use of the warm bath, and gently stimulating applications to the ulcerated surface, will be found to comprize almost the whole of what can be done to render the patient's situation more tolerable.

Besides, thus lessening the sufferings of our patients, we may reasonably hope to protract their existence, and to these very limited objects, must we, alas! at present confine our expectations

The Author has now brought this little Essay near to a close. Fully sensible as he is of its numerous defects and imperfections, it is not without some hesitation and diffidence that he ventures to submit it to the judgment of those who are so well qualified to form a just estimate, both of its merits and demerits. Without offering any further apology, it is here, however, incumbent upon him to leave it to its own fate. It has been his intention

all along to communicate such information as may be found practically useful, making, however, the necessary distinction between empiricism and dogmatism. How far he may have succeeded in his attempt it is for those to determine upon whose liberality and candour he can confidently rely.

THE END.



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